

Remarks

Claims 1, 4, 7, 40, 41 and 46-50 are pending in the subject application and currently before the Examiner for consideration. By way of this amendment, claims 4, 46 and 47 have been amended (support for the amendments made to the claims can be found, for example, at page 16, lines 11-16 and page 17, lines 9-27). Favorable consideration of the pending claims is respectfully requested. Applicants also gratefully acknowledge the Examiner's withdrawal of the rejections under 35 U.S.C. § 112, first and second paragraphs.

Claims 1, 4, 7, 40, 41, 46 and 47-50 remain rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. The Office Action indicates that the claims are drawn to a mathematical algorithm. Accordingly, the claims must include a physical transformation step or a useful, tangible and concrete result in order for the invention to be statutory. The Office Action also argues that the instant claims are drawn to methods, systems or programmed storage devices that are not necessarily a computer program or machine. Applicants respectfully disagree.

Applicants respectfully submit that claims 4, 46 and 47 comprise a system of one or more electronically connected computers and that claims 7, 48 and 49 relate to a programmed storage device. As set forth in the last two lines of claims 4, 46 and 47, the system comprises one or more electronically connected computers. With respect to claims 7, 48 and 49, the claims are directed to "a programmed storage device" that comprises instructions for performing the method recited within the claims. As set forth in the specification, the phrase "programmed storage device" is defined as any computer readable media on which a program readable by a computer has been stored (see page 17, lines 1-3). A "system" may include any type of electronically connected group of computers (see page 17, lines 17-20 and 32-33). Thus, Applicants respectfully submit that the instant claims are not directed solely to a mathematical algorithm as alleged in the Office Action; rather, claims 4, 7 and 46-49 are directed to physical entities, namely machines or devices, that qualify as statutory subject matter. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 101 with respect to these claims is respectfully requested.

With respect to claims 1, 40, 41 and 50, Applicants respectfully submit that these claims are directed to statutory subject matter as well. For example, subsections (a) and (b) of each of these claims recite the genotyping of the same chromosomal segment to obtain the haplotypes of all

individuals in one of said at least two groups. As set forth in the Patent Office guidelines for computer-implemented inventions, “If a claim requires acts to be performed to *create* data that will then be used in a process representing a *practical application* of one or more mathematical operations, those acts *must* be treated as further limiting the claim beyond the mathematical operation(s) *per se*. Such acts are data gathering steps not dictated by the algorithm but by other limitations which require certain antecedent steps and as such constitute an independent limitation on the claim” (emphasis in original). Subsections (a) and (b) of claims 1, 40, 41 and 50 require one to create or gather data that are not dictated by the algorithms used in performance of the claimed method steps. Accordingly, it is respectfully submitted that claims 1, 40, 41 and 50 recite a process that meets the statutory requirements of 35 U.S.C. § 101 and reconsideration and withdrawal of the rejection is respectfully requested.

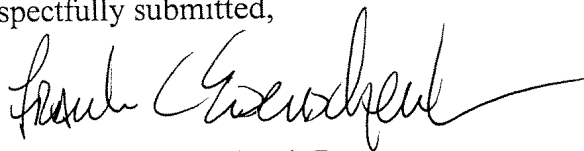
Applicants expressly reserve the right to pursue the invention(s) disclosed in the subject application, including any subject matter canceled or not pursued during prosecution of the subject application, in a related application.

Applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Frank C. Eisenschenk", with a long horizontal flourish extending to the right.

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